Commentary

February 2000

By Dr. Scott Truever

Why DD 21?

Looking to the daunting requirements for naval warfare in an Information Age, the U.S. Navy has boldly moved forward with the development of the 21st Century Land-Attack Destroyer (DD 21). The Navy must maintain an ability to conduct the fundamental tasks of shaping the international environment, responding to the full spectrum of crises, and preparing for an uncertain future. To accomplish these goals — particularly in light of the decommissioning of *Spruance* (DD-963)-class destroyers and *Oliver Hazard Perry* (FFG-7)-class frigates — the Navy is modernizing its surface combatant force. The DD 21 is the key to future success.

Tomorrow's forces must be able to sustain appropriate levels of naval capability that can influence events not only on the broad seas and littoral regions of the world, but far ashore as well. If the lessons of the 1999 Kosovo campaign and other recent crises indicate anything, it is the wide geographic reach of naval strike warfare. The strategic centers of even land-locked countries are now at risk from surface warships offshore. The DD 21 is a vital element in ensuring that the nation's warfighting requirements can continue to be met, from the sea.

Fundamental to meeting 21st century warfighting requirements will be the ability to establish and maintain maritime dominance in the operationally complex littoral battlespace, thereby allowing naval forces to extend the battlespace inland. DD 21 will be capable of 360-degree sensor coverage on, above, and underneath the seas through a Net Centric Warfare concept of operations that effectively integrates advanced command, control, communications, computers, intelligence, surveillance, and reconnaissance systems. To ensure effective operations in the littoral, DD 21 will possess full-spectrum signature reduction, and active and passive self-defense systems, as well as cutting-edge survivability features, including reconfigurable ship systems and in-stride mine avoidance.

DD 21 is the first surface combatant designed and engineered entirely upon post-Cold War operational requirements and strategic concepts. Designed to support emerging Joint Littoral Warfighting requirements, including significant contributions to the Joint land battle, DD 21 will carry a vast array of offensive, distributed, precise firepower including the Advanced Land Attack Missile (ALAM), Tactical Tomahawk (TACTOM), and the Advanced Gun System (AGS) firing Extended-Range Guided Munitions (ERGM). DD 21 will be able to operate either as an independent unit or as an integral component of a Joint Task Force. DD 21's precision-guided munitions will provide Joint Force Commanders with significantly improved ranges, accuracy, and volume of fires compared to the current generation

of shipboard surface fire-support systems. DD 21's land attack warfare system will be able to assign and launch the "right" weapon at the "right" target at the "right" time.

A streamlined approach to acquisition seeks to maximize design innovation and flexibility, minimize the design and delivery timeline and deliver significant cost savings through the use of advanced commercial technologies and non-developmental items, as well as privatized life-cycle support. Advanced design and construction techniques and an innovative maintenance concept will result in significant savings in total ownership costs. Acquisition of DD 21 in appropriate numbers at an affordable price is critical to allowing the U.S. Navy to meet the minimum surface combatant force-level requirement of 116 ships that was one outcome of the May 1997 Department of Defense Quadrennial Defense Review (QDR).

In August 1998, the Navy awarded an agreement for two competing industry teams to conduct requirements analyses and trade-off studies and to develop initial system concept designs. A DD 21 program review in September 1999 indicated the two industry teams are on track and making significant progress in development of their competing ship designs. Down-selection to a single design and "Full Service Contractor" is planned for 2001. Following lead ship award, the Navy plans to acquire 32 DD 21s at a rate of three ships per year, each with an expected service life of 35 years. The two conceptual-development teams are: Blue Team (Bath Iron Works, Bath Maine; and Lockheed Martin Government Electronic Systems, Moorestown, New Jersey), and Gold Team (Ingalls Shipbuilding, Pascagoula, Mississippi; and Raytheon Systems Company, Falls Church, Virginia).

The DD 21 program continues to "push the envelope" in other important areas. The DD 21 Program Office is focused on significantly reducing DD 21's procurement and Operations and Support costs as compared to previous surface combatants. Optimizing crew size through automation is viewed as a critical enabler of DD 21's reduced life-cycle costs. Attainment of DD 21's challenging operational requirements and aggressive affordability goals requires appropriate research and development funding be maintained. One important factor that will help achieve this is the incorporation of integrated electric drive propulsion and switching technologies into the DD 21 design, as the Secretary of the Navy announced on 6 January 2000.

In reengineering the Fleet for the 21st century, the Navy is effectively securing the operational and cost efficiencies of its surface combatant force. Ongoing research and development efforts under the auspices of the Program Executive Office DD 21 are making these operational requirements attainable and acquisition and operating and support costs objectives obtainable.

February 2000